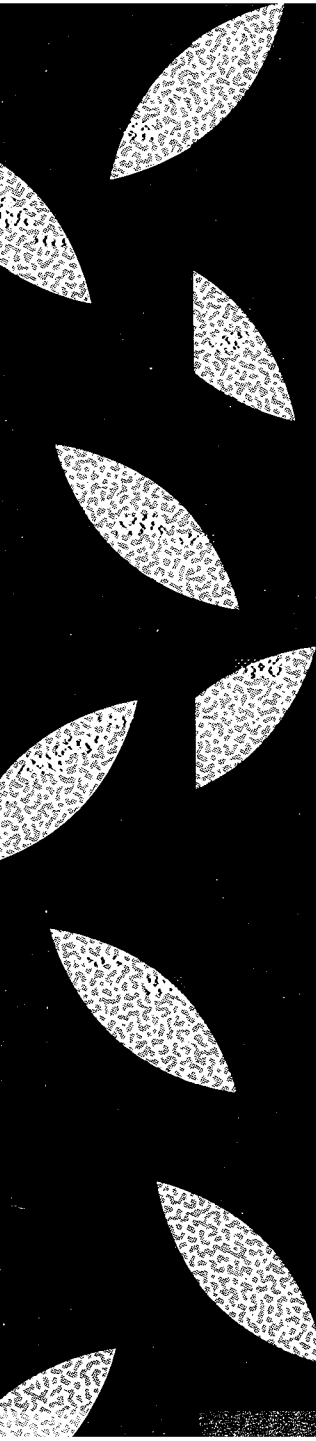




# **Intelligent Music System    Celebrating The Spirit Of Music**

**OWNERS MANUAL  
BEDIENUNGSANLEITUNG  
MANUEL D'EMPLOI**

কল্যাণকামা দীপিকা (১৭) মাসিক (১৯৭০) কল্যাণকামা দীপিকা (১৭) মাসিক (১৯৭০) কল্যাণকামা দীপিকা (১৭) মাসিক (১৯৭০)

কল্যাণকামা দীপিকা (১৭) মাসিক (১৯৭০)

FESTIVAL

## A FEW SIMPLE PRECAUTIONS

### Avoid Electrical Shorts at the Speaker Terminals

Loudspeaker cables used to connect the speakers to the amplifier have two leads. Each is made of fine wire. One lead should not be allowed to touch the other lead or a short circuit will result. The amplifier is protected against catastrophic failure in the presence of shorts, but it will cease to operate until the short circuit is broken.

### CD Player Precautions

The CD's laser pickup is located under the CD drawer and may malfunction in the presence of dust or contaminants. Never touch the lens and do not apply chemical cleaners to it. Keep the door closed except when you are loading or unloading discs and do not touch the internal mechanism.

### Cassette Deck Precautions

Tape heads should be cleaned periodically with pure isopropyl alcohol. This can be done with special cleaning tapes. Do not allow alcohol to drip on the cabinet itself. Do not allow dust or foreign objects to enter the cassette well.



**CAUTION**

**RISK OF ELECTRIC SHOCK**

**DO NOT OPEN**



**CAUTION:** TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE THE COVERS OR BACKS OF ANY OF THE COMPONENTS IN THIS SYSTEM. NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of un-insulated dangerous voltages within the product's enclosure. Such voltages may be of sufficient magnitude to pose the danger of serious electrical shocks to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

**WARNING:** TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

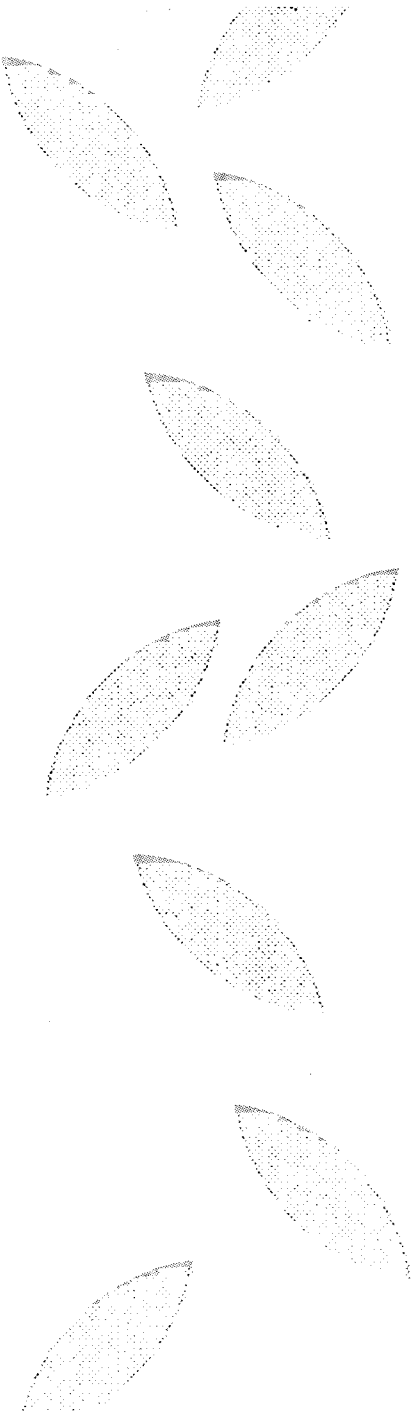
### CLASS I LASER PRODUCT

Product complies with DHHS rules CFR subchapter J part 1040.10 at date of manufacture.

**DANGER**—invisible laser radiation when opened and interlock fails or is defeated. Avoid direct exposure to the laser beam.

**CAUTION**—use of any controls or adjustments in a manner other than specified herein, or the performance of procedures other than those specified herein may result in hazardous radiation exposure.

**CLASS 1  
LASER PRODUCT**



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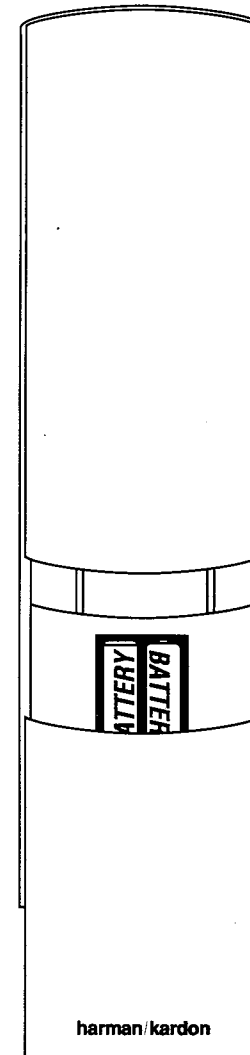
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## ASSEMBLY AND CONNECTIONS

Assembling the Festival systems is a simple matter of stacking the components and connecting them together with the supplied cables. Festival components are designed for flexibility of placement, and they may be assembled in a single stack four high, or in two stacks of two components each. We recommend initial setup in the single stack configuration for ease in making cable connections. Follow this manual closely during setup, and if any item is missing or damaged, contact your authorized Harman-Kardon dealer.

### To assemble your Festival system:

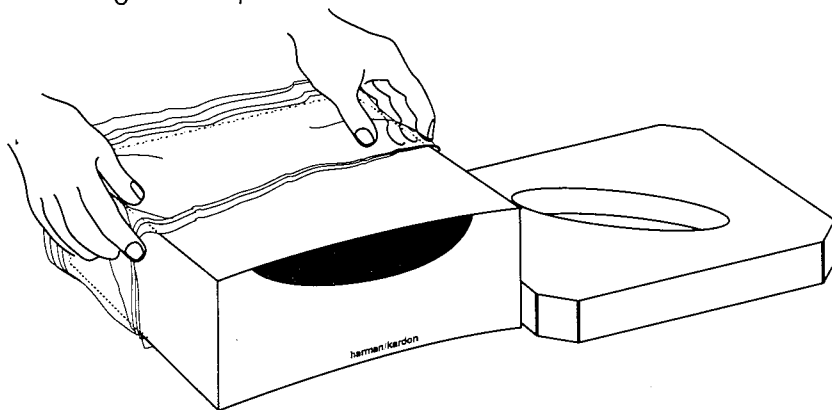
1. Remove the remote control and batteries from their bags. You will find these items in the same foam tray containing this manual. Install the batteries in the remote control as directed by the instructions printed on the bag containing the remote. Set the remote aside.



## ASSEMBLY AND CONNECTIONS

(CONT.)

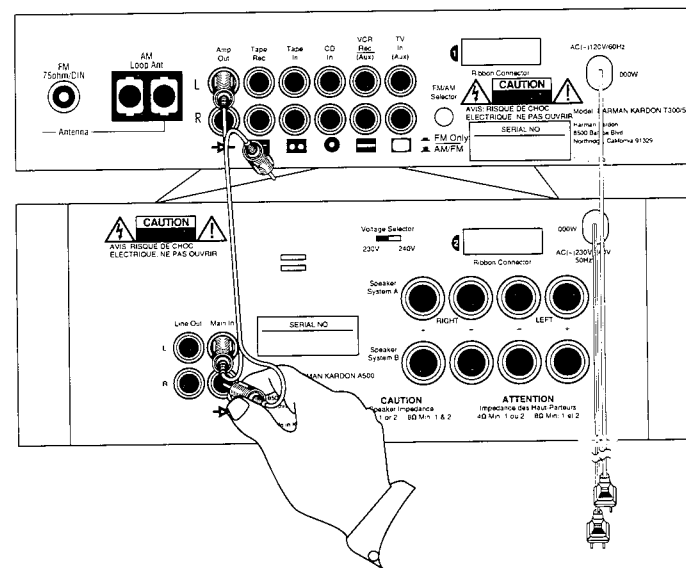
2. Remove the foam tray from on top of the stack of packaged components. Lift out and unwrap the top component, the integrated amplifier.



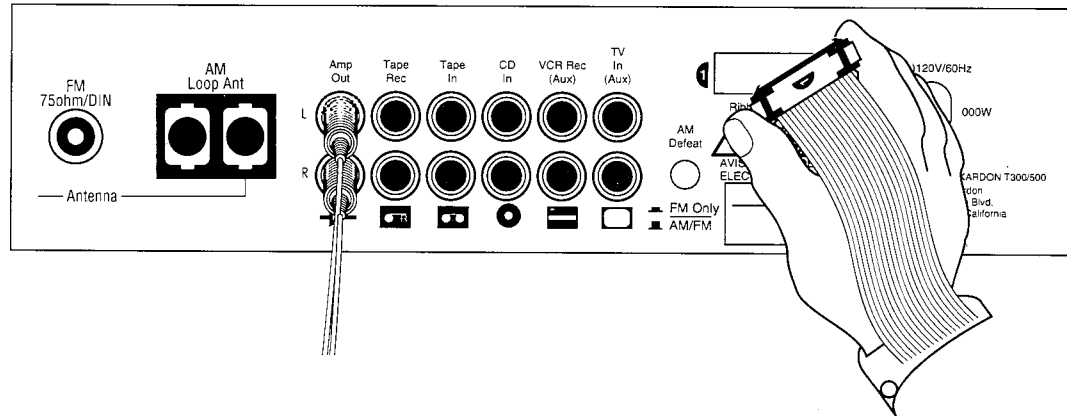
Place the amplifier where you wish to install the system. It will form the base of the system.

3. Lift the tuner from the next tray down. Unwrap and place on top of the amplifier, making sure the two front feet slip into their sockets behind the amplifier's front panel. Next remove the accessory bag

from the bottom of the tuner tray and find the single short audio interconnect cable provided. These cables can be identified by the pair of red and white connectors at either end. Use this short cable to connect the jacks marked  on the amp to the similarly marked jacks on the tuner by plugging the red terminations into the red jacks and the white terminations into the white jacks.



4. Now find the flat ribbon cable, and, grasping the plug marked **1** by its sides with the thumb and index finger, push it into its matching socket on the tuner-controller until it clicks in place.



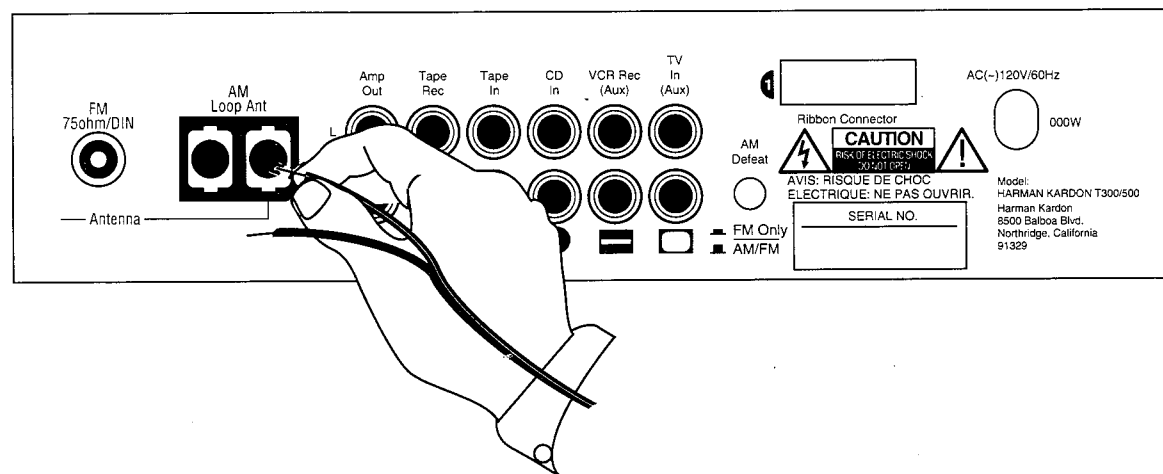
Plug the **2** connector into the amp in a similar fashion. Set aside the FM and AM antennas for connection later.

5. Under the empty tuner tray, you'll find the cassette deck. Unwrap it and place it on top of the tuner-controller, interlocking the front feet as before. Use the two long interconnect cables provided in the the cassette deck tray to connect the jacks indicated by **TR** and **FR** symbols on the cassette to the jacks indicated by matching symbols on the tuner. Finally, push the number **3** connector of the ribbon cable into its socket on the cassette until it clicks, being careful not to put any twists in the cable. Note that all cables run vertically when properly installed. If any cross each other diagonally, recheck your connections.



7. Connect the antennas. The rear panel of the tuner-controller has terminals for both the AM loop antenna and the FM "T" or straight wire antenna included with the system, or for the FM antenna of your choice. The style of the AM and FM antenna terminals will differ according to the country in which you purchase your Festival system.

In 120 volt countries both AM and FM antenna terminals will be of the spring type, and will accept bare wire leads.



## ASSEMBLY AND CONNECTIONS

(CONT.)

8. **CONNECT THE LOUDSPEAKERS.** Optional Festival speakers can be purchased, and we strongly recommend them because they match the characteristics of the amp, and in themselves represent an excellent value. If you choose to use other speakers, see Appendix B for guidance on the choice of speakers.

The Festival 500 has two individually switchable sets of speaker terminals for two pairs of speakers, perhaps in different rooms, marked "Speakers A" and "Speakers B". Festival 500 owners may perform the following using either the "A" or "B" set of terminals. The Festival 300 has just one set of speaker terminals.

Loosen each speaker connector. Starting with the right channel insert the positive lead into the red speaker terminal marked "+". The speaker wire's insulation must be stripped back about 10 mm (1/2"). You will note a hole near the top of the terminal. Place the end of the lead in that hole and then screw the terminal knob down firmly. You may find that temporarily unplugging the ribbon cable from the amplifier makes this easier. Do the same for the negative lead and the black speaker terminal marked "-". Repeat for the left channel. Terminals on speakers are similarly marked with a red or "+" terminal and a black or "-" terminal. Be certain the red terminal of the amplifier is connected to the red terminal of the speaker, and the black terminal of the amplifier is connected to the black terminal of the speaker. If you unplugged the ribbon cable while connecting the speakers, replace it now.

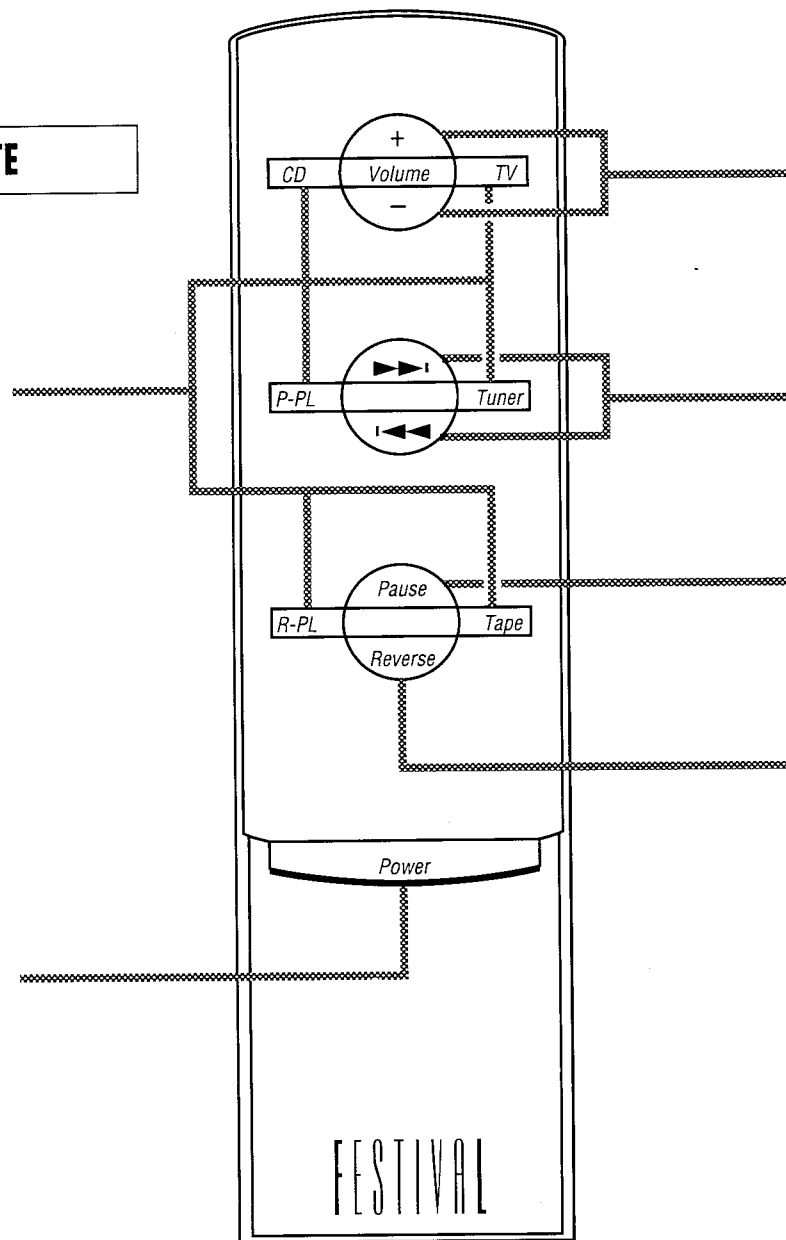
9. **TV (AUX) Input:** The Festival controller-tuner has two additional pairs of audio jacks which allow you to integrate audio or video components which are not part of the Festival system. Please see the Appendix A for further information.

## OPERATING THE REMOTE

Press one of these to change the source of the music:

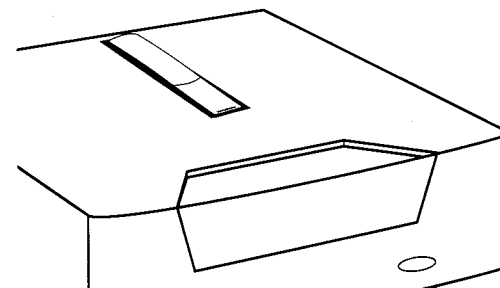
- CD for disc
- P-PL (program play) for favorite songs from disc
- R-PL (random play) for songs from disc in random order
- TV (optional) for auxiliary components
- TUNER for radio
- TAPE for cassette

Press POWER to turn system on and off.



Press REVERSE to play the opposite side of a tape.

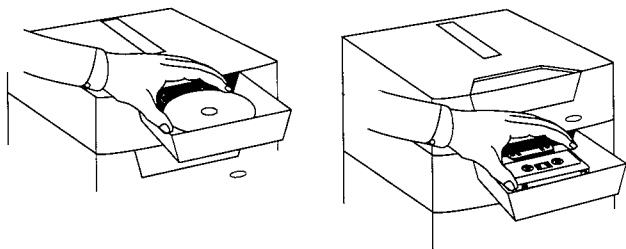
NOTE: When not in use the remote may be placed in the cradle on top of the CD Player.



## FRONT PANEL CONTROLS AND ELECTRONIC LABELS

### CD and Tape Drawers

The button to the right of the drawer on the CD and tape players can be pushed to open and close the drawer when inserting discs and tapes.



Except for the open/close buttons, all front panel controls are located on the tuner-controller within a large oval window.

All system functions are accessed through pushbuttons located across the middle of this window. Additional set-and-forget controls are located behind a pull-down gate located immediately below the row of pushbuttons.

**NOTE: The speaker switch(es) behind door must be pushed in to hear music.**

The "EXTERNAL" indicator reminds you to check your external components, if any, anytime the auxiliary input/output jacks are in circuit. If "EXTERNAL" is lighted, but there is no sound, make sure your external device(s) are on.

"RECORD" indicates that a recording is currently in process.

"MUTE" is displayed anytime the PAUSE control is engaged.

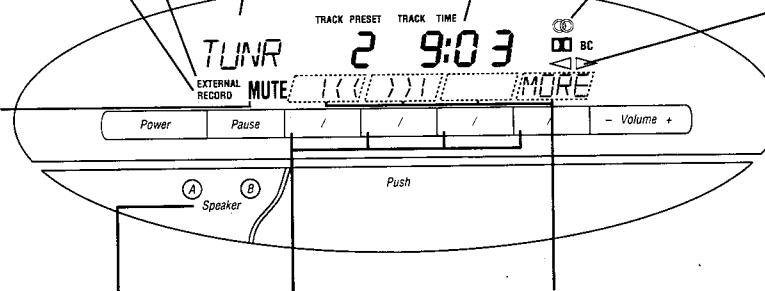
Note:  
The speaker switch(es) behind door must be pushed in to hear music.

Here is the large four letter operating mode display, which shows at a glance which source is playing or if you're in CD favorite track programming mode (CDPR) (CD program).

The main numeric display shows the CD track or radio station you're listening to, or the tape counter time.

The Dolby® noise reduction indicator comes on to show the type of noise reduction being applied to the tape.

The tape direction indicators show the actual direction of tape movement.



The functions of these four buttons are identified by these four ELECTRONIC LABELS directly above them, allowing the functions to change. To activate Electronic Labels, simply press any of these four buttons. Then proceed by pressing the button directly below the feature label you wish to use. If at any time you wish start over, simply wait 10 sec. and start again.

## Operating Modes

Festival systems simplify operation by grouping all commands into three basic modes.

We call source selection the “listen mode”—**LSTN** for short. Programming is **PROG.** (program). And recording is **RCRD.** (record). The three of them together comprise your main menu of choices, and all functions are accessed through one or the other of the three operating modes. All functions are operated in essentially the same way, that is, by pressing the unmarked button immediately below the label designating the function on the display.

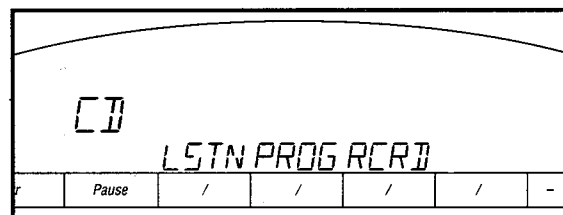
## The Main Menu

Everything starts with the main menu, and you can get to the main menu one of two ways.

Press **POWER** on the far left of the row of buttons to turn Festival on. The display will light up, and the system will activate the source in use when the system was turned off. (When turned on for the first time, Festival will choose **TUNR** for the radio.)

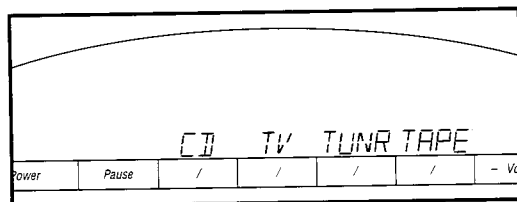
If the power is already on, press any one of the four unmarked buttons in the middle of the row.

In either case, the main menu will appear on the display.



## LISTENING

The LSTN mode lets you select the tuner, the CD player, or the cassette deck, as well as one auxiliary source. When you press LSTN the display reads:

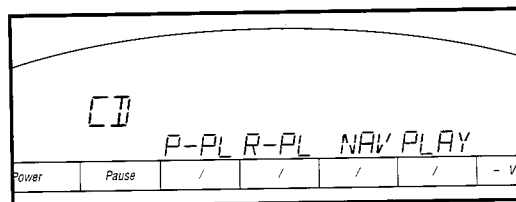


TV refers to an auxiliary source. The other labels refer to the Festival components.

Select a source by pressing the button immediately below the electronic label. Note that when you select any source other than TV you automatically access the functions for that source and that source begins to play.

### CD LSTN Functions

When you select CD, the CD begins to play and the following choices appear on the display:



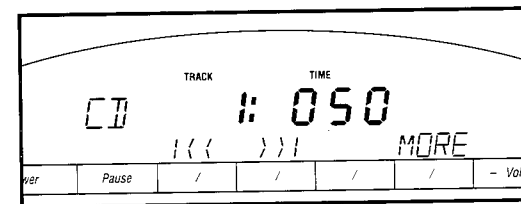
Note that if the CD player is empty, the drawer will slide out, prompting you to load a disc and push the drawer closed.

P-PL (program play) indicates programmed play. In order to exercise this function, you must first program your favorite selections for the current disc. Refer to the section on programming for programming directions.

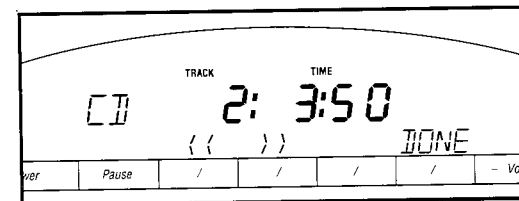
R-PL (random play) indicates random play. Press R-PL and the CD player will automatically select a random order for playing back the tracks on the CD in the loading tray.

PLAY—Press PLAY to switch from P-PL or R-PL to normal CD play, beginning with the current track.

NAV (navigate)—Press NAV and you can move from track to track using the buttons under the { { { and } } } labels appearing on the display.



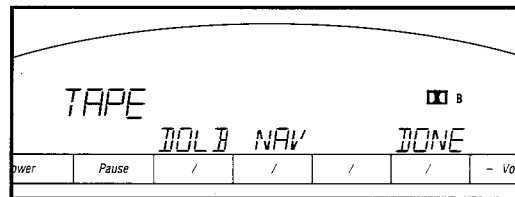
MORE — Press MORE and you can search up or down through the disc to any passage using the buttons beneath the { { { and } } } labels.



DONE always returns you to the main menu.

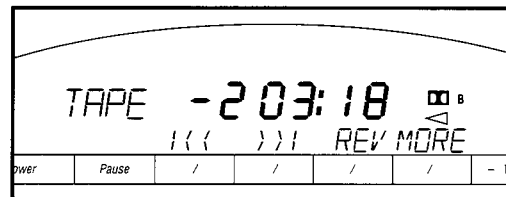
## TAPE LSTN (Listen) Functions

When you select TAPE, the display presents you with two functions:



DOLB stands for Dolby® noise reduction which is selectable through the DOLB button. Press repeatedly to choose Dolby B type noise reduction, Dolby C, or no noise reduction. When Dolby noise reduction is engaged **DB** will be shown in the display along with the letter designation B or C.

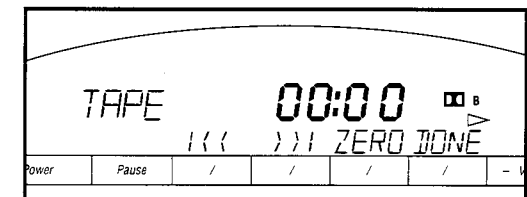
Press NAV (navigate) and the directional indicators **[[[** and **]]]** will appear on the display.



**[[[** will automatically rewind the tape back to a previous song and **]]]** will advance it to a subsequent song. The number of songs to be skipped forward or back are indicated to the left of the tape counter in the display.

REV — As on the remote, pressing REV reverses the tape. It can also be used to cancel fast forward or rewind. (See below.)

Pressing MORE displays:



Rewind and Fast Forward — Press **[[[** to rewind to the beginning of the current side and **]]]** to fast forward to the beginning of the next side.

ZERO — Press ZERO to reset the tape counter.

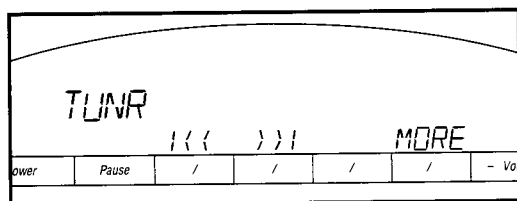
Important Note: The controls on this page will function when the tape is paused by the PAUSE button. This feature can be used to set up for a manual recording. (See Appendix D).

## LISTENING

(CONT.)

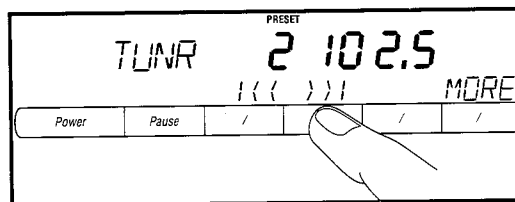
### TUNR LSTN Functions

To play the tuner, first select LSTN and then select TUNR from the LSTN choices. The display will now read:



Pressing either directional key will put you into the SEEK mode, and the tuner will proceed to the first strong station.

Press and hold either directional key for two seconds to call up or change the PRESET number (1 to 19) in the display. Continue to hold the directional key to cycle through your presets.



### AM and FM Tuning

Press MORE to activate the manual tuning function. Use the directional keys to tune up and down the bands. Note that the Festival systems do not have a manual AM/FM switch. To get from one band to another hold either directional key and run through the band you're currently occupying. You'll automatically pass into the other band. (Note that if you use FM only, push the switch on the tuner back panel to bypass the AM band when tuning.) Save your favorite stations in the presets in the PROGRAMMING MODE, Pg. 17-18.

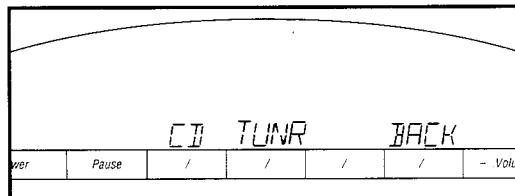
## PROGRAMMING

The Festival compact disc player and tuner are programmable. Programming the tuner consists of saving station presets, while CD programming lets you choose your favorite tracks from a given CD for playback by the P-PL command.

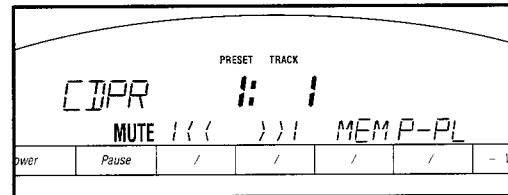
### Programming the CD player

Load the CD in the compact disc player. Enter the main menu. Select PROG (program).

The display will prompt you to choose a source to program. Note that BACK always returns you to the previous display screen.



Press CD to program the CD player. The display now reads:

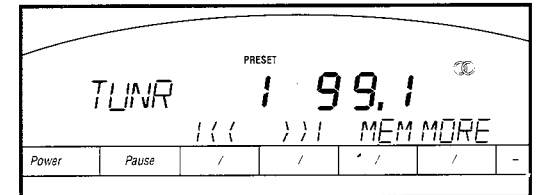


Use the directional keys to select the tracks you wish to program, and with each track selection press MEM to enter the selection into memory. Then to begin programmed play press P-PL. The CD player will then play only those tracks programmed into memory.

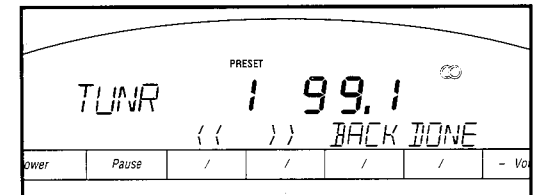
NOTE: The program for a given CD is erased when you open the tray.

### Programming Tuner Presets

To program Tuner presets first enter the main menu by selecting any of the unmarked buttons. Next press PROG and then select TUNR. The display will read:



Pressing MORE will change the display to:

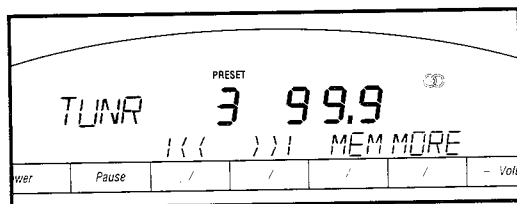


Use MORE and BACK to change between these two screens while in the tuner presetting mode.

## PROGRAMMING

(CONT.)

Using  $\rangle \rangle \rangle$  and  $\langle \langle \langle$  to SEEK or  $\langle \langle$  and  $\rangle \rangle$  to tune manually (See TUNR LSTN functions, above.), tune to a station you wish to memorize. Then, by pressing  $\rangle \rangle \rangle$  or  $\langle \langle \langle$  for more than two seconds at a time, adjust the displayed preset number to the desired preset between 1 and 19.



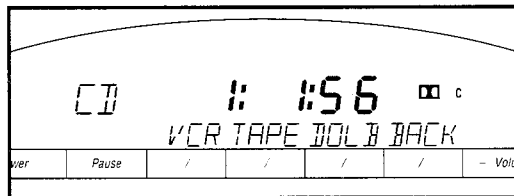
Press MEM (memory) to save that station in that preset number. The preset will automatically be increased by 1 when you press MEM, so you needn't adjust the number manually when memorizing many stations at once.

NOTE: After a period of 10 seconds, Festival will revert to the main menu.

## RECORDING

The Festival system gives you considerable flexibility in making recordings. You can record within the system from the tuner or CD player onto the cassette deck. You can also record from a system source to an outboard recorder. You can also record from an outside source onto the system cassette deck. However, when outboard components are involved the process is less automatic.

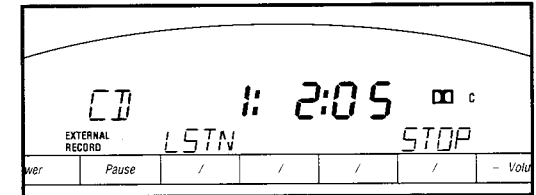
Before making a recording, you must first select the source you wish to record by entering the LSTN (listen) mode from the main menu, and, of course, you must load a blank cassette in the tape well. Then go back to the main menu and press RCRD (record). The display will read:



Note that TAPE and DOLB will not be lit if you are listening to TAPE. This prevents inadvertently recording over a favorite tape.

### Recording to an external recorder

VCR should be selected when recording to an external recorder you've connected to your system. If you're using the system cassette deck to record, you can disregard this section. When you press VCR, EXTERNAL and RECORD will appear in the display to remind you to set up your external component for recording. Also, the STOP command is added to the main menu, so you can stop recording. Finally, PROGRAMMING and RECORDING commands are omitted from the main menu



while recording is in progress. IF YOU HEAR NO SOUND AFTER PRESSING VCR, CHECK THE CONNECTIONS AND SETTINGS OF THE EXTERNAL RECORDER.

Dolby noise reduction is selectable through the DOLB button. Press DOLB once to choose Dolby B type noise reduction, again for Dolby C, and again for no noise reduction. When noise reduction is engaged the **DO** will be shown on the display along with the letter designation B or C.

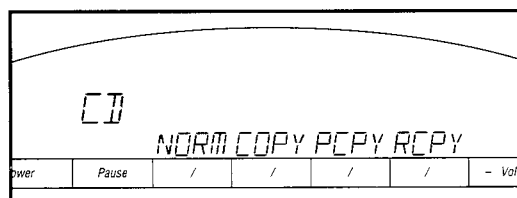
BACK takes you back to the main menu.

## RECORDING

(CONT.)

### Recording to the internal cassette

Press TAPE and the display presents you with four recording choices:



When you select NORM (normal) the cassette deck will begin recording the source immediately.

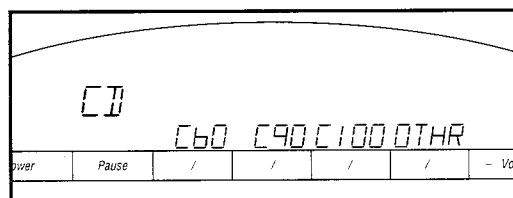
Select COPY to automatically duplicate a CD onto tape. The tape is wound back to the beginning, and the recording starts at the beginning of track one.

THE COPYING PROCESS CAN ONLY BE INTERRUPTED BY PRESSING THE BUTTON BELOW **STOP** ON THE DISPLAY OR SHUTTING OFF THE POWER.

PCPY (programmed copy) stands for Programmed Copy. It is like COPY, but only the pre-programmed selections are copied. The CD player must have been previously programmed for the current disc.

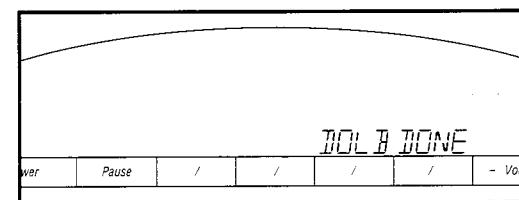
RCPY (random copy) stands for random copy, and it is the same as COPY, except the disc is copied to tape with the songs in random order.

Choosing COPY, PCPY, or RCPY automatically places you in the optional EDIT mode where you are given the following choices:



C60, C90, and C100 refer to 60, 90, and 100 minute tapes respectively.

Festival uses this information during the copying process to record the songs to avoid running out of tape in mid track. If desired, press the button corresponding to the tape you're using, to activate the EDIT feature for this recording. After you have selected a tape length, the display reads:



Pressing DOLB repeatedly cycles you through the choices of Dolby B noise reduction, Dolby C noise reduction, or Dolby noise reduction off. DONE completes the command sequence.

## OTHER FRONT PANEL CONTROLS

A hinged door directly below the row of seven pushbuttons conceals secondary controls. Press the top of the gate to lower it and expose the controls.

The SPEAKER button(s) (A and B on the Festival 500) let you turn each pair of speakers off, to listen through headphones or to one speaker pair at a time.

BALANCE adjusts the relative levels of the left and right channels.

TREBLE and BASS are tone controls.

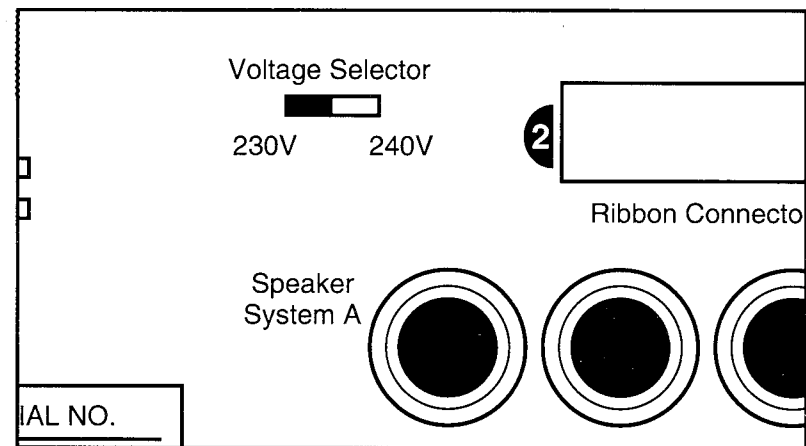
BASS ASSIST should only be used with Festival speakers. It extends low bass response when the button is in.

PHONES is a jack for lightweight stereo headphones. (Use the SPEAKERS button(s) to turn the main speakers off.)

## REAR PANEL CONTROLS

### AC VOLTAGE SELECTOR

Export models of the Festival systems have switches permitting the selection of either 230V or 240V AC voltages. This control is located on the integrated amplifier back panel.

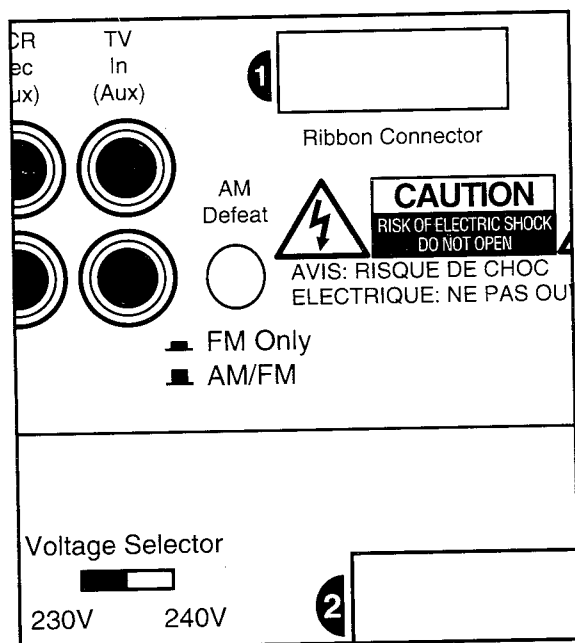


## REAR PANEL CONTROLS

(CONT.)

### AM DEFEAT

This control is located on the tuner back panel. When this button is pressed in, only FM stations may be tuned, although AM presets that were previously memorized may still be called up in the usual way.



### CD OUTPUT LEVEL CONTROL

The CD output level is preset at the factory for optimum recording and listening performance. Some advanced users may want to customize this setting. This level control on the CD back panel has three settings: 0 dB—the standard setting, + 1.5 dB, and + 3 dB.

**APPENDIX A****CONNECTING ADDITIONAL  
COMPONENTS TO YOUR FESTIVAL  
SYSTEM**

The TV (Aux) input at the extreme right of the row of phono jacks on the tuner-controller will accept almost any stereo output except for that of a turntable. You can, for instance, connect the audio outputs of a stereo television, a stereo VCR, a laserdisc player, DCC, Mini-Disc, or a satellite receiver. The VCR Rec (Aux) output, which is next to the TV (Aux) input, lets you record from any of the sources comprising the Festival system onto another cassette deck, a hi-fi VCR deck, a Mini-Disc player, or a DCC deck. Keep in mind, however, that if you utilize the VCR Rec (Aux) output, you must initiate the recording from the outboard component. The Festival's system commands cannot control the recording process for any recording device aside from its own cassette deck.

FESTIVAL

## APPENDIX B

### SPEAKER CHOICES

Although Festival speakers will give optimum performance, Festival electronics are quite capable of driving other speakers. If you choose to use other loudspeakers, be sure to follow these guidelines:

The Festival 300 has terminals for a single pair of speakers, while the Festival 500 will accept two pairs of speakers, of which both may be played simultaneously, or only one pair activated (speaker selection is made via front panel switches for speakers A and B). The System 300 can also drive two pairs of speakers simultaneously, but in this case both pairs of speakers must share a single set of output jacks. If you choose to drive two pairs of speakers with either system, make sure that each pair of speakers has a rated input impedance of at least 8 Ohms. Using two pair of 4 Ohm speakers or even one 4 Ohm pair and one 8 Ohm pair may cause the protection circuitry in either system to shut down temporarily. If this occurs, simply disconnect one pair of speakers. The Festival amplifier is provided with

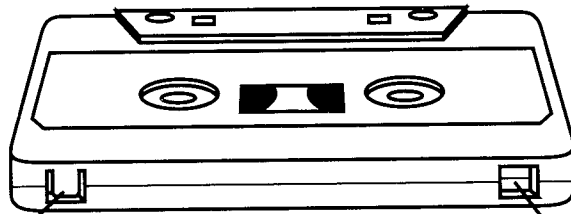
high quality binding post terminals for the speaker cable connection. These terminals will accept either bare wire or pin connectors.

We recommend the use of low resistance, twin lead cable especially designed for this application. Your authorized dealer will stock such cable. If the loudspeakers are placed fairly nearby to the amplifier so that a wire run of less than ten feet is required for either speaker, then 18 gauge (1mm) wire is permissible, but do not use a lighter gauge. Over longer runs use wire in the range of 16 to 12 gauge (1.5-3 mm) (the lower the gauge number, the heavier the gauge, and the lower the electrical resistance of the wire.)

## APPENDIX C

### RECORDING TABS

Prerecorded cassette tapes are often manufactured with recording tabs removed.



Record tab in place  
(recording possible)

Record tab removed  
(recording prevented)

This prevents the tape deck from recording over the material on the tape. When an attempt is made to record on such a tape, the Festival cassette deck will eject the tape. In such cases, substitute a tape intended for recording which still has these tabs.

## APPENDIX D

### MANUAL RECORDING STRATEGIES

Festival's automated CD copying modes largely eliminate the need to set up recordings manually, but users who require this capability will find the following information useful. Festival is always ON. This way, when you select CD, the CD begins to play with no further effort. When preparing to record, however, there are times when you may want to rewind a tape to the beginning and wait, or stop the tape at the end of a certain song.

To facilitate this, Festival's tape navigation (NAV) controls are fully functional with the system in PAUSE. Simply press PAUSE, select TAPE, fast forward or rewind as needed, select your source to be recorded (CD, TV, or TUNR), press RCRD then TAPE then NORM, and press PAUSE again to begin recording.

Also, in TAPE LISTENING mode find the point on the tape you want to record from by ear, and immediately press PAUSE. Then select your source to record from, press RCRD then TAPE then NORM, and press PAUSE again to begin recording.

## FESTIVAL SPECIFICATIONS

### CD Player:

|                                 |                                                                         |
|---------------------------------|-------------------------------------------------------------------------|
| System                          | Compact Disc Digital Audio                                              |
| D/A Converter                   | Dual, Linear, Pulse Width Modulated Bit Stream, Clock Rate: 33.8688 Mhz |
| Signal Detection                | 3-Beam Semiconductor Optical Laser Pickup                               |
| Error Correction                | CIRC System                                                             |
| Low Level Linearity             | ±1.0 dB @ -90 dB                                                        |
| Frequency Response              | 4Hz - 20 kHz +0dB/-1.5dB                                                |
| Total Harmonic Distortion (THD) | 0.007%                                                                  |
| Dynamic Range                   | 97 dB                                                                   |
| Signal-to-Noise Ratio           | 101 dB                                                                  |
| Channel Separation              | 88 dB                                                                   |
| Line Output Level/Impedance     | 1.6 - 2.0 V @ 10k Ohm                                                   |
| Dimensions (mm) (HxWxD)         | 80x270x335                                                              |
| (in.)                           | 3 1/8 x 10 5/8 x 13                                                     |
| Weight (Kg)                     | 3.2                                                                     |
| (lb.)                           | 7.1                                                                     |

### Tape Deck:

|                                     |                                            |
|-------------------------------------|--------------------------------------------|
| Type                                | Horizontal 4-track, 2-channel auto reverse |
| Heads                               | 1 hard permalloy Rec/Play Head             |
|                                     | 1 double gap Erase head                    |
| Tape Speed                          | 4.75 cm/sec 1 7/8 IPS                      |
| Frequency Response @ -20 dB         | 20Hz - 19kHz ± 3 dB (Metal Tape)           |
| Wow and Flutter NAB, WRMS/DIN       | 0.05%/0.08%                                |
| Signal-to-Noise Ratio, w/CRO2, AWTD |                                            |
| Dolby off                           | 57 dB                                      |

|                                                            |                 |
|------------------------------------------------------------|-----------------|
| Dolby B on                                                 | 65 dB           |
| Dolby C on                                                 | 73 dB           |
| Total Harmonic Distortion (1 kHz, metal tape, Dolby level) | 1.0%            |
| Channel separation                                         | 45 dB           |
| Channel Crosstalk                                          | 70 dB           |
| Erase ratio                                                | 60 dB           |
| Bias frequency                                             | 105 kHz         |
| Output level, Dolby level                                  | 365 mV          |
| Input Sensitivity, Dolby level                             | 365 mV          |
| Dimensions (mm) (HxWxD)                                    | 100x270x335     |
| (in.)                                                      | 4 x 10 5/8 x 13 |
| Weight (Kg)                                                | 3.8             |
| (lb.)                                                      | 8.4             |

### FM Tuner Section:

|                                             |                        |
|---------------------------------------------|------------------------|
| Tuning Range                                | 87.50 Mhz - 108.00 Mhz |
| Usable Sensitivity Mono                     | 13.2 dBf               |
| 50 dB Quieting Sensitivity, Stereo          | 47.2 dBf               |
| Signal-to-Noise Ratio @ 65 dBf, Mono/Stereo | 70 dB / 65 dB          |
| Capture Ratio                               | 1.5 dB                 |
| Selectivity, Adjacent/Alternate             |                        |
| Channel                                     | 10 dB/75 dB            |
| IF Rejection                                | 90 dB                  |
| Stereo Separation ~ 1 kHz, 65 dBf           | 50 dB                  |
| THD @ 1 kHz, 65 dBf, Mono/Stereo            | 0.15/0.20%             |

### AM Tuner Section:

|                               |                    |
|-------------------------------|--------------------|
| Tuning Range                  | 522 kHz - 1611 kHz |
| Sensitivity                   | 400 microvolt/m    |
| Alternate Channel Selectivity | 70 dB              |

|                     |                                  |
|---------------------|----------------------------------|
| Image Rejection     | 40 dB                            |
| IF Rejection        | 65 dB                            |
| Dimensions (mm/in.) | 80x270x335 / 3 1/8 x 10 5/8 x 13 |
| Weight (Kg/lb.)     | 4.0/8.8                          |

### Remote Control:

|                     |                                     |
|---------------------|-------------------------------------|
| Dimensions (mm/in.) | 12 x 42 x 167 / 1/2 x 1 5/8 x 6 5/8 |
| Weight (Kg/lb.)     | 0.14/0.31                           |

### Amplifier:

|                                       | 300               | 500                 |
|---------------------------------------|-------------------|---------------------|
| Continuous Average Power 4 Ohm        | 35 Watts          | 60 Watts            |
| (from 20 Hz - 20 kHz @ < 0.3% THD)    |                   |                     |
| High Instantaneous Current Capability | ± 25 Amps         | ± 35 Amps           |
| Negative Feedback                     | 20 dB             | 20 dB               |
| Power Bandwidth @ Half Rated Power    | < 10 Hz - 100 kHz | < 10 Hz - 100 kHz   |
| (Into 4 Ohms)                         |                   |                     |
| Frequency Response @ 1 W +0/-3 dB     | 0.5 Hz - 180 kHz  | 0.5 Hz - 180 kHz    |
| Slew Rate                             | 100 V/usec        | 140 V/usec          |
| Rise Time                             | 1.8 usec          | 1.8 usec            |
| Damping Factor                        | 60                | 60                  |
| Signal-to-Noise Ratio                 | 98 dB             | 98 dB               |
| (Below rated, power, A wtd)           |                   |                     |
| Tone Control Range (+/-)              | 10/10 dB          | 10/10 dB            |
| (Bass @ 50 Hz/Treble @ 10 kHz)        |                   |                     |
| Bass Assist Boost @ 55 Hz             | 6 dB              | 6 dB                |
| Dimensions (mm) (HxWxD)               | 100x270x335       | 115x270x335         |
| (in.)                                 | 4 x 10 5/8 x 13   | 4 1/2 x 10 5/8 x 13 |
| Weight (Kg)                           | 5.5               | 6.6                 |
| (in.)                                 | 12.1              | 14.5                |

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